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FISH & RICHARDSON PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
ALEJANDRO, RAYMOND	
ART UNIT	**PAPER NUMBER**
1745	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/034,901	CINTRA ET AL.	
	Examiner	Art Unit	
	Raymond Alejandro	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *52-61 and 63-75* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *52-61 and 63-75* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 March 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This office action is being provided in reply to applicant's communication dated 06/12/06. The applicant has neither overcome the 35 USC 102 rejection nor the 35 USC 103 for claims 52-61 (as set forth in the prior office action). Refer to the foregoing amendment for details on applicant's rebuttal arguments. Thus, the present claims (including newly added claims 63-75) are finally rejected over art as set forth hereunder and for the reasons of record:

Specification

1. The amendment filed 06/12/06 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: (claims 52 and 60) the newly added recitation "*layering the second layer onto the first layer to provide a first stack comprising the first layer and the second layer*" in conjunction with "*removing the substrate from the first layer*". That is to say, the specific order of "*removing the substrate*" and subsequently, "*layering the second layer*" lacks adequate support in the specification as filed. In order to show that applicant's specification provides support for this amendment, applicant has directed the attention of the examiner to paragraphs 0039-0041. However, after carefully reviewing such paragraphs, it is unclear whether the specific order of removing the substrate, and thereafter, layering the second layer is carried out as instantly claimed by the applicant. While the examiner does not dispute that support does exist for the limitation reciting "*forming a second layer comprising the cathode mixture*" and "*layering the second layer onto the first layer to provide a first stack comprising*

the first layer and the second layer", the examiner contends herein that it is unclear whether substrate removal is performed before providing the second layer. That is to say, whether the specific order (i.e. the order of steps b-d) for carrying out the claimed method is fully and clearly supported by the specification as filed.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 52-61 and 63-72 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. (claims 52 and 60) the newly added recitation "*layering the second layer onto the first layer to provide a first stack comprising the first layer and the second layer*" in conjunction with "*removing the substrate from the first layer*". That is to say, the specific order of "*removing the substrate*" and subsequently, "*layering the second layer*" lacks adequate support in the specification as filed. In order to show that applicant's specification provides support for this amendment, applicant has directed the attention of the examiner to paragraphs 0039-0041. However, after carefully reviewing such paragraphs, it is unclear whether the specific order of removing the substrate, and thereafter, layering the second layer is carried out

as instantly claimed by the applicant. While the examiner does not dispute that support does exist for the limitation reciting "*forming a second layer comprising the cathode mixture*" and "*layering the second layer onto the first layer to provide a first stack comprising the first layer and the second layer*", the examiner contends herein that it is unclear whether substrate removal is performed before providing the second layer. That is to say, whether the specific order (*i.e. the order of steps b-d*) for carrying out the claimed method is fully and clearly supported by the specification as filed.

Applicant is required to cancel the new matter in the reply to this Office Action.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 73-75 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 73 recites the limitation "the first layer" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 52-53, 55, 57-60, 63-64 and 68-69 are rejected under 35 U.S.C. 102(b) as being anticipated by Chu 5582623.

The instant application is directed to a method of making a battery electrode wherein the disclosed inventive concept comprises forming a cathode layer and removing the substrate. Other limitations include the cathode mixture; the substrate material; the current collector; the binder and the continuous process.

As to claim 52, 60, 63 and 68:

Chu discloses methods of fabricating rechargeable positive electrodes (TITLE) including the step of forming the active electrode involving a step of depositing a layer of an electrode mixture on a substrate (COL 7, lines 21-30); and when a slurry is employed to prepare the electrode, a further step of drying is employed to dry the electrode; the slurry may be dried on a substrate (COL 7, lines 32-35); the dried electrode must be first removed from the substrate, and then affixed to a current collector (COL 7, lines 36-40). Chu clearly discloses that after the electrode film is dried, it is peeled away from the substrate and later contacted to a current collector (COL 14, lines 40-45).

The positive electrode is a composite matrix (a mixture) including active material (COL 10, lines 32-45) and binders (COL 11, l9ines 60-65); and solvents (COL 12, lines 20-30).

EXAMPLE 1 illustrates the making of the positive electrode film comprising mixing the active material, carbon black (*the conducting agent*); a polymeric material (*which may act as the binder*) in a solution (*encompassing the solvent*). *Thus, Chu discloses with sufficient specificity the specific method of making the battery electrode as instantly claimed.*

(***Emphasis added→***) Chu discloses that it should be noted that electrodes of appropriate thickness for low power application may be made by laminating two or more thinner electrodes (COL 14, lines 27-30). *Thus, not only Chu at once envisages laminating two or more layers, but Chu also provides specific guidance for forming more than one electrode layer as instantly claimed. Thus, Chu's teachings at least do encompass forming a first stack comprising more than one electrode layer regardless of the specific step order.*

As to claim 53:

Chu discloses adding binders (COL 11, lines57-65) and the use of various polymeric materials (COL 10, lines 35-65 & COL 11, lines 33-55). *It is noted that any of these polymeric materials is capable of binding together the electrode components.*

As to claim 55 and 60:

Chu employs a solvent (COL 12, lines 20-30). **EXAMPLE 1** illustrates the making of the positive electrode film comprising mixing the active material, carbon black (*the conducting agent*); a polymeric material (*which may act as the binder*) in a solution (*encompassing the solvent*).

As to claims 58-59:

Disclosed is the addition of conducting agents such as carbon black into the cathode mixture (COL 11, lines 50-57). **EXAMPLE 1** shows the use of carbon black (EXAMPLE 1).

As to claims 64 and 69:

Chu directly discloses that the dried electrode must be first removed from the substrate, and then affixed to a current collector (COL 7, lines 37-40).

Thus, the present claims are anticipated.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 54, 56-57, 61, 66-67 and 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu 5582623 as applied to claims 53, 55 and 60 above (See item 8) or below (See item 15), and further in view of Hamamoto et al 2002/0168576.

Chu is applied, argued and incorporated herein for the reasons above.

As to claim 57:

Additionally, Chu discloses that preferred liquid solvents evaporate quickly so that the resulting film dries completely and before the redistribution of the components can occur (COL 12, lines 25-30). *Thus, Chu's teachings encompass removing a portion of the solvent.*

However, the preceding reference does not expressly disclose the specific binder and solvent; and the specific electrode active material.

As to claims 54, 56-57, 61, 67 and 72:

Hamamoto et al disclose that cathode can be prepared by mixing the cathode active material with a conducting agent, a binder such as polyvinylidene fluoride (PVDF), polytetrafluoroethylene (PTFE); and N-methylpyrrolidone solvent to form a cathode paste which is coated on a collector (*the substrate*) (SECTION 0043, 0044, 0062). **EXAMPLE 1** exemplifies mixing such specific electrode components to form the cathode paste (EXAMPLE 1).

[0043] The cathode can be prepared by mixing the cathode active material with a conductive agent such as acetylene black or carbon black, a binder such as polyvinylidene fluoride (PVDF), polytetrafluoroethylene (PTFE), and N-methylpyrrolidone solvent to form a cathode paste, then coating this cathode paste on a collector such as aluminum foil or a stainless steel lath, drying at 50 to 250° C., followed by compression molding.

[0062] 80% by weight of $LiCoO_2$ (cathode active material), 10% by weight of acetylene black (conductive agent), and 10% by weight of polyvinylidene fluoride (binder) were mixed and diluted by N-methylpyrrolidone to prepare a cathode paste. The paste was coated on an aluminum foil

As to claims 66 and 71:

Hamamoto et al disclose the use of complex oxide such as lithium cobalt oxide or lithium manganese oxide as cathode active material in secondary batteries (P0005) for producing compact, light and high capacity secondary batteries (P0004).

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to employ the specific the specific binder and solvent of Hamamoto et al to make the battery electrode of Chu because Hamamoto et al teach that battery cathodes can be prepared by mixing together the cathode active material, conducting aids, solvents and binders. Accordingly, such specific cathode mixture materials are suitable battery electrode components

helping to provide a non-aqueous electrolyte battery having satisfactory electric capacity and superior cycle characteristics and storage characteristics.

As far as the specific electrode active material, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to use the specific electrode active material of Hamamoto et al in the method (or electrochemical cell) of Chu because Hamamoto et al teach that the specifically claimed electrode active material allows to produce compact, light and high capacity secondary batteries (P0004). Thus, such an electrode active material does increase the capacity of secondary batteries. Thus, one of ordinary skill in the art would have reasonably expected that the advantages discussed in Hamamoto et al would have also been achieved by using such a specific electrode active material in the method (or electrochemical cell) of Chu.

12. Claims 65 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu 5582623 as applied to claims 64 and 69 above (See item 8) or below (See item 15).

Chu is applied, argued and incorporated herein for the reasons discussed supra. However, Chu does not expressly disclose producing a second stack of cathode layers.

However, Chu discloses methods of fabricating rechargeable positive electrodes (TITLE) including the step of forming the active electrode involving a step of depositing a layer of an electrode mixture on a substrate (COL 7, lines 21-30). (***Emphasis added→***) Chu discloses that it should be noted that electrodes of appropriate thickness for low power application may be made by laminating two or more thinner electrodes (COL 14, lines 27-30). *Thus, not only Chu at once envisages laminating two or more layers, but Chu also provides specific guidance for forming*

more than one electrode layer as instantly claimed. Thus, Chu's teachings at least do encompass forming a first stack comprising more than one electrode layer regardless of the specific step order.

In view of the above, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to produce a second stack of cathode layers by using the method disclosed by Chu because it has been held that re-arrangement, reversal or duplication of parts is obvious. Succinctly stated, fact that a claimed second stack of cathode layers is structurally re-arranged, reversed or duplicated is not sufficient by itself to patentably distinguish over an otherwise old feature unless there are new or unexpected results as it is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed second stack of cathode layers was significant. In re Japikse 86 USPQ 70. In re Kuhle 188 USPQ 7. In re Gazda 104 USPQ 400. In re Harza 124 USPQ 378. (***Refer to MPEP 2144.04 [R-1] Legal Precedent as Source of Supporting Rationale: VI. Reversal, Duplication, OR Rearrangement of Parts***).

13. Claims 73-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu 5582623.

As to claim 73:

Chu discloses methods of fabricating rechargeable positive electrodes (TITLE) including the step of forming the active electrode involving a step of depositing a layer of an electrode mixture on a substrate (COL 7, lines 21-30); and when a slurry is employed to prepare the electrode, a further step of drying is employed to dry the electrode; the slurry may be dried on a

substrate (COL 7, lines 32-35); the dried electrode must be first removed from the substrate, and then affixed to a current collector (COL 7, lines 36-40). Chu clearly discloses that after the electrode film is dried, it is peeled away from the substrate and later contacted to a current collector (COL 14, lines 40-45).

The positive electrode is a composite matrix (a mixture) including active material (COL 10, lines 32-45) and binders (COL 11, l9ines 60-65); and solvents (COL 12, lines 20-30).

(***Emphasis added→***) Chu further discloses that the exact ordering in which components are added to the slurry is not critical to the invention. In fact, as illustrated in EXAMPLES 18-20, various approaches have been found to work with his invention (COL 12, lines 50-61). In one embodiment, some components are first dissolved and mixed before other components are added; while in another exemplary embodiment, all components except one component are dispersed and dissolved (mixed) before that one component is added. It is further disclosed that components may be added to the slurry sequentially or in a premixed form (i.e. the solid insolubles are mixed before the addition to the slurry) (COL 12, lines 50-61).

EXAMPLE 1 illustrates the making of the positive electrode film comprising mixing the active material, carbon black (*the conducting agent*); a polymeric material (*which may act as the binder*) in a solution (*encompassing the solvent*). *Thus, Chu discloses with sufficient specificity the specific method of making the battery electrode as instantly claimed.*

(***Emphasis added→***) Chu discloses that it should be noted that electrodes of appropriate thickness for low power application may be made by laminating two or more thinner electrodes (COL 14, lines 27-30). *Thus, not only Chu at once envisages laminating two or more layers, but Chu also provides specific guidance for forming more than one electrode layer as instantly*

claimed. Thus, Chu's teachings at least do encompass forming a first stack comprising more than one electrode layer regardless of the specific step order.

As to claim 74:

Chu directly discloses that the dried electrode must be first removed from the substrate, and then affixed to a current collector (COL 7, lines 37-40).

Chu disclose a method of making a battery electrode as described above. However, Chu fails to expressly disclose the specific order of blending order as instantly claimed in claim 73.

However, in light of Chu's teachings, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to perform the specific blending order as instantly claimed in claim 73 because Chu itself discloses that the exact ordering in which components are added to the slurry is not critical to the invention. In fact, as illustrated in EXAMPLES 18-20, various approaches have been found to work with his invention (COL 12, lines 50-61). In one embodiment, some components are first dissolved and mixed before other components are added; while in another exemplary embodiment, all components except one component are dispersed and dissolved (mixed) before that one component is added. Chu further discloses that components may be added to the slurry sequentially or in a premixed form (i.e. the solid insolubles are mixed before the addition to the slurry) (COL 12, lines 50-61). Therefore, even though Chu does not expressly disclose the specific blending order, Chu directly exemplifies and shows that various approaches of adding components to form an electrode active material have also been found to work. Thus, Chu's teachings provide a clear instruction to those of ordinary skill in the art that changing or altering the order of adding components to form an electrode active material mixture or blending can be

easily performed without critically affecting the electrode active material structure or composition, thereby, it is well within the level of ordinary skill, and consequently, it is prima-facie obvious to do so. *Concerning this matter, it is also noted that change in sequence of adding ingredients has been held to render a prima facie case of obviousness, consequently, it is still contended that reversing the order of the prior art process steps (Ex parte Rubin 128 USPQ 440); selection of any order of performing process steps (In re Burhans 69 USPQ 330); or selection of any order of mixing ingredients (In re Gibson 5USPQ 230) are prima facie obvious in the absence of new or unexpected results* ***(See MPEP 2144.04 [R-1] Legal Precedent as Source of Supporting Rationale: IV. Changes in Sequence of Adding Ingredients)***.

14. Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chu 5582623 as applied to claim 73 above, and further in view of Hamamoto et al 2002/0168576.

Chu is applied, argued and incorporated herein for the reasons above. However, the preceding reference does not expressly disclose the specific electrode active material.

Hamamoto et al disclose the use of complex oxide such as lithium cobalt oxide or lithium manganese oxide as cathode active material in secondary batteries (P0005) for producing compact, light and high capacity secondary batteries (P0004).

In view of the above, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to use the specific electrode active material of Hamamoto et al in the method (or electrochemical cell) of Chu because Hamamoto et al teach that the specifically claimed electrode active material allows to produce compact, light and high capacity secondary batteries (P0004). Thus, such an electrode active

material does increase the capacity of secondary batteries. Thus, one of ordinary skill in the art would have reasonably expected that the advantages discussed in Hamamoto et al would have also been achieved by using such a specific electrode active material in the method (or electrochemical cell) of Chu.

15. Claims 52-53, 55, 57-60, 63-64 and 68-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu 5582623.

As to claim 52, 60, 63 and 68:

Chu discloses methods of fabricating rechargeable positive electrodes (TITLE) including the step of forming the active electrode involving a step of depositing a layer of an electrode mixture on a substrate (COL 7, lines 21-30); and when a slurry is employed to prepare the electrode, a further step of drying is employed to dry the electrode; the slurry may be dried on a substrate (COL 7, lines 32-35); the dried electrode must be first removed from the substrate, and then affixed to a current collector (COL 7, lines 36-40). Chu clearly discloses that after the electrode film is dried, it is peeled away from the substrate and later contacted to a current collector (COL 14, lines 40-45).

The positive electrode is a composite matrix (a mixture) including active material (COL 10, lines 32-45) and binders (COL 11, l9ines 60-65); and solvents (COL 12, lines 20-30).

(***Emphasis added***→) Chu further discloses that the exact ordering in which components are added to the slurry is not critical to the invention. In fact, as illustrated in EXAMPLES 18-20, various approaches have been found to work with his invention (COL 12, lines 50-61). In one embodiment, some components are first dissolved and mixed before other components are

added; while in another exemplary embodiment, all components except one component are dispersed and dissolved (mixed) before that one component is added. It is further disclosed that components may be added to the slurry sequentially or in a premixed form (i.e. the solid insolubles are mixed before the addition to the slurry) (COL 12, lines 50-61).

EXAMPLE 1 illustrates the making of the positive electrode film comprising mixing the active material, carbon black (*the conducting agent*); a polymeric material (*which may act as the binder*) in a solution (*encompassing the solvent*). *Thus, Chu discloses with sufficient specificity the specific method of making the battery electrode as instantly claimed.*

(***Emphasis added→***) Chu discloses that it should be noted that electrodes of appropriate thickness for low power application may be made by laminating two or more thinner electrodes (COL 14, lines 27-30). *Thus, not only Chu at once envisages laminating two or more layers, but Chu also provides specific guidance for forming more than one electrode layer as instantly claimed. Thus, Chu's teachings at least do encompass forming a first stack comprising more than one electrode layer regardless of the specific step order.*

As to claim 53:

Chu discloses adding binders (COL 11, lines57-65) and the use of various polymeric materials (COL 10, lines 35-65 & COL 11, lines 33-55). *It is noted that any of these polymeric materials is capable of binding together the electrode components.*

As to claim 55 and 60:

Chu employs a solvent (COL 12, lines 20-30). **EXAMPLE 1** illustrates the making of the positive electrode film comprising mixing the active material, carbon black (*the conducting*

agent); a polymeric material (*which may act as the binder*) in a solution (*encompassing the solvent*).

As to claims 58-59:

Disclosed is the addition of conducting agents such as carbon black into the cathode mixture (COL 11, lines 50-57). **EXAMPLE 1** shows the use of carbon black (EXAMPLE 1).

As to claims 64 and 69:

Chu directly discloses that the dried electrode must be first removed from the substrate, and then affixed to a current collector (COL 7, lines 37-40).

Chu disclose a method of making a battery electrode as described above. However, Chu fails to expressly disclose the specific order of forming (layering) the second layer.

However, in light of Chu's teachings, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to perform the specific order of forming (layering) the second layer because Chu itself discloses that the exact ordering in which components are added is not critical to the invention. In fact, as illustrated in EXAMPLES 1-20, various approaches have been found to work with his invention (COL 12, lines 50-61). Chu further discloses that components may be added to the slurry sequentially or in a premixed form (COL 12, lines 50-61). Therefore, even though Chu does not expressly disclose the specific order of forming (layering) the second layer, Chu directly exemplifies and shows that various approaches of adding components to form an electrode active material have also been found to work. Thus, Chu's teachings provide a clear instruction to those of ordinary skill in the art that changing or altering the order of adding components to form electrode active material layers can be easily performed without critically affecting the electrode active material

structure or composition, thereby, it is well within the level of ordinary skill, and consequently, it is prima-facie obvious to do so. *Concerning this matter, it is also noted that change in sequence of adding ingredients has been held to render a prima facie case of obviousness, consequently, it is still contended that reversing the order of the prior art process steps (Ex parte Rubin 128 USPQ 440); selection of any order of performing process steps (In re Burhans 69 USPQ 330); or selection of any order of mixing ingredients (In re Gibson 5USPQ 230) are prima facie obvious in the absence of new or unexpected results* ***(See MPEP 2144.04 [R-1] Legal Precedent as Source of Supporting Rationale: IV. Changes in Sequence of Adding Ingredients)***.

Response to Arguments

16. Applicant's arguments filed 06/12/06 have been fully considered but they are not persuasive.

17. Applicant has argued that "Chu does not describe making cathodes from multiple layers of a cathode mixture. Moreover, in any event, Chu does not teach any benefit to using a removable substrate that would motivate a person of ordinary skill in the art to use a removable substrate in connection with making a cathode including multiple layers of cathode active material". In response, the examiner respectfully but strenuously disagrees with applicant's position. In fact, it is positively averred that Chu makes known that it should be noted that electrodes of appropriate thickness for low power application may be made by laminating two or more thinner electrodes (COL 14, lines 27-30). Thus, not only Chu at once envisages laminating two or more layers, but Chu also provides specific guidance for forming more than one electrode layer as instantly claimed and within the scope of applicant's inventive method. Thus, Chu's

teachings at least do encompass forming a first stack comprising more than one electrode layer regardless of the specific step order.

18. On the other hand, assuming for the sake of argument that applicant is not convinced that Chu shows the specific order of removing the substrate and then layering the second layer (a point clearly not conceded by the examiner), it is contended that Chu directly exemplifies and shows that various approaches of adding components to form an electrode active material have also been found to work. Specifically, Chu discloses that the exact ordering in which components are added is not critical to the invention. In fact, as illustrated in EXAMPLES 1-20, various approaches have been found to work with his invention (COL 12, lines 50-61); and Chu further discloses that components may be added to the slurry sequentially or in a premixed form (COL 12, lines 50-61). As a consequence, Chu's teachings provide a clear instruction to those of ordinary skill in the art that changing or altering the order of adding components to form electrode active material layers can be easily performed without critically affecting the electrode active material structure or composition, thereby, it is well within the level of ordinary skill, and consequently, if such a teaching is found not to be fully anticipatory, it does at least set forth a reasonable ground for a prima-facie case of obviousness as also presented supra. *Further concerning this matter, it is also noted that change in sequence of adding ingredients has been held to render a prima facie case of obviousness, consequently, it is still contended that reversing the order of the prior art process steps (Ex parte Rubin 128 USPQ 440); selection of any order of performing process steps (In re Burhans 69 USPQ 330); or selection of any order of mixing ingredients (In re Gibson 5USPQ 230) are prima facie obvious in the absence of new*

*or unexpected results (See **MPEP 2144.04 [R-1] Legal Precedent as Source of Supporting Rationale: IV. Changes in Sequence of Adding Ingredients**).*

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action (for certain claims). Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Raymond Alejandro
Primary Examiner
Art Unit 1745

RAYMOND ALEJANDRO
PRIMARY EXAMINER